Early Care and Education Workforce: Key Issues and Policy Solutions

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Early Childhood
Workforce: Teachers

Introduction

Early care and education (ECE) can provide important benefits for young children and their families,[1] but these benefits depend on the quality of care provided, which in turn depends on the adults doing the teaching.[2] In the United States, most early educators receive low compensation and limited on-the-job support.[3] Recruiting and retaining teachers is challenging, compromising the quality of care available to families.

This chapter:

(1) describes the ECE workforce overall and across sectors, which we define as the four primary types of out-of-home ECE settings: home-based child care; private, center-based child care; federal Head Start; and state and local pre-kindergarten (preK) programs;

(2) describes the evidence about the extent to which teachers' education, compensation, professional learning opportunities, and leadership relate to key outcomes of interests including teacher turnover, ECE quality, and children's developmental gains; and

(3) highlights the evidence on policies to support early educators.

Key findings

Key Finding #1: *In most contexts, entry requirements for early educators are far lower than for K-12 teachers, and early educators receive considerably less compensation.*

Many states have no educational requirements for ECE workers. Just 30%–35% of educators in center-based settings (e.g., private child care, Head Start, or school-based preK) have a bachelor's degree (BA);[4] in contrast, 97% of the K-12 workforce holds at least a BA, and 49% holds a graduate degree.[5] K-12 educators earn on average $63,645 per year and benefits including medical insurance and retirement resources[6]—this is more than twice the average salary of early educators, who also usually lack access to benefits.[7]

Key Finding #2: *Early educator training, compensation, and support are lowest in the sectors that serve the most children.*

The training, compensation, and support ECE teachers receive vary considerably across sectors. Home- and center-based child care settings, which serve more than 5 million of

the roughly 7.5 million children participating in ECE tend to have few barriers to entry and limited supports. No state requires home- or center-based child care educators to hold a BA,[8] and professional development (PD) opportunities are limited; in contrast, Head Start and state preK have higher entry requirements and regular PD opportunities.[9] Although wages vary considerably across states and communities, on average, salaries are highest in school-based public preK ($53,200 in 2022), followed by Head Start ($35,819), and child care ($29,570, both home- and center-based) (see Figure 1),[10] with data suggesting that compensation is lower in home- than center-based child care.[11]

Key Finding #3: *Early educator turnover is high relative to K-12 and highest in the settings that serve the most children. This instability has negative implications for children and families.*

One recent review suggests that 26–40% of early educators leave their jobs each year,[12] a rate that is at least twice as high as recent K-12 turnover estimates.[13] Recent sector-level data suggest even higher rates in center-based child care: Administrative data covering all sites receiving public funds in Virginia found that nearly 40% of the child care workforce left each year (36%), compared to 30% of Head Start and 24% of public preK teachers[14] (see Figure 2), similar to statewide estimate from Louisiana.[15] This level of instability likely has negative implications for children and families: Data suggest that young children suffer developmental consequences in classrooms where teachers leave mid-year[16] and that instability makes it more difficult for families to find high-quality ECE.[17]

Key Finding #4: *There is some evidence that compensation increases for early educators reduce turnover.*

Although the low wages paid to early educators are often hypothesized to be a key driver of high turnover rates, we have limited evidence on the extent to which increased compensation (e.g., raises, bonuses) helps retain teachers. One recent randomized experiment found that a $1500 bonus provided to Virginia child care teachers reduced 8-month turnover by half.[18] Another recent study showed that minimum wage hikes increased ECE teacher compensation and reduced turnover.[19] We do not yet have studies directly examining how pay raises for early educators impact young children or exploring whether ECE settings with equal pay to K-12 settings see reductions in turnover and improvements in quality and/or child development.

Key Finding #5: *There is no rigorous evidence on the impacts of policies to increase education or credential requirements on turnover, quality, or child outcomes.*

There is no causal evidence on the impact of increased education or credential requirements on teacher, child, or family outcomes.[20] There is correlational evidence on the relationship between teachers' education and both turnover and quality, but findings are mixed.[21] Furthermore, any correlation between teacher education or credentials and outcomes may reflect prior differences between teachers who do and do not hold these credentials rather than the impact of the degree.

Key Finding #6: *The lack of ECE workforce data hinders our ability to answer basic questions about the ECE workforce or track the impact of workforce policies.*
The ECE landscape in the U.S. is highly fragmented, and most states collect no systematic data on educators across all ECE sectors. Unlike K-12, in which large, nationally representative surveys or statewide data systems track the workforce,[22] the "data deficit" in ECE hinders our ability to answer basic questions about who early educators are, what qualifications they hold, and what their employment looks like.[23] It also prevents

researchers from evaluating policies in rigorous ways at scale. New efforts to collect systemwide data are underway[24] and will hopefully lead to essential new understanding.

The ECE workforce: overall and by sector

In the United States, there are nearly 1.5 million teachers and caregivers who work with children aged five and under. This workforce is nearly entirely women, with a racial composition that closely mirrors that of U.S. children.[25] For example, nationally representative early educator data indicate that this workforce is about 60% White, in contrast to 80% of K-12 educators, with about 16% of early educators identifying as Black and 16% as Hispanic.[26]

The work that these educators do is complex and challenging, both mentally and physically. Young children learn primarily through content-rich conversations and purposeful interactions, and early educators are central to creating these intentional learning moments.[27] Research consistently shows that the aspects of ECE quality that are most tightly linked to children's learning focus on the classroom processes created by early educators, rather than structural or material factors.[28] Effective early educators build warm, responsive spaces with myriad opportunities for child engagement. They use advanced language, monitor children's progress, and leverage sophisticated questioning to do the skilled, complex work of supporting children's conceptual development.[29] They also understand developmental trajectories for children's skills in different areas and offer learning opportunities in a scope and sequence that match these trajectories.[30]

Nonetheless, existing data suggest that despite the similarity of early educators' work to that of their K-12 peers, early educators are trained in more variable ways, are paid lower wages, and tend to work in settings with fewer supports. In the United States, educators working in K-12 public schools are universally required to be "highly qualified," holding at least a BA and teaching credential. These training experiences require future educators to develop pedagogical skills and typically include student teaching experiences in which future educators intern with experienced educators. Nearly all K-12 teachers have a BA, and nearly 50% hold an additional graduate degree. More than 86% reported having some kind of student teaching or practicum experience.[31] In contrast, the only universal requirement for early educators is a criminal background check, and in most states, there is no educational requirement. Nonetheless, many early educators do earn degrees, whether a child development associate's (CDA, the most widely known child development credential), AA, or BA. Nationally representative data from 2019 show that 18% of home-based staff have a BA and 18% have an AA, and for center-based staff, these numbers are 30% and 18%, respectively.[32] This may be because of some variability in requirements (e.g., by sector; see below), wage incentives, or because early educators consistently report high internal motivation to do their work well.[33]

Early educator wages are also lower than those of their K-12 peers. In 2020, the average salary for an early educator was roughly $30,000—an amount that is less than half the average wage for K-12 educators.[34] Early educators' average wages are lower than the standard for a living wage in most U.S. states,[35] and early educators are far more likely to be poor, food insecure, and experience material hardship than their K-12 counterparts, including difficulty paying for basic needs such as food, rent, medical care, and transportation.[36] Even early educators who hold BAs earn on average 28% less than their peers working with older children.[37] Beyond wages, it is common for public schools to offer teachers healthcare, dental, vision, sick leave, and retirement benefits,[38] including for teachers working in school-based public preK classrooms. In contrast, access to benefits is

rare in most early childhood settings, including for public preK teachers working in community-based settings.[39]

Early educators are also offered fewer on-the-job supports. While public school teachers work in schools with leaders specifically trained in education and credentialed school leadership, as well as access to a variety of support staff and professional learning opportunities, early educators often have access to none of these. Most schools have staff who can support students' physical and emotional needs, including a nurse (82%) and school counselor, psychologist, or social worker (94%).[40] K-12 teachers often participate in yearly evaluation and feedback cycles and have access to funding and release time for professional learning.[41] In contrast, early educators often work at sites without specifically trained leaders. ECE leaders have a highly variable set of backgrounds and training experiences, with just one state requiring directors to hold a BA,[42] and may not consider themselves the instructional leader of their sites. Similarly, ECE sites often do not have on-site nurses or supports for children's mental health. Early educators also rarely have access to professional learning opportunities and other supports for practice (e.g., paid release time, planning time), and access to paid leave is minimal.[43]

These discrepancies between the K-12 and ECE workforces are striking but mask significant within-ECE, sector-level variability. These sector differences have significant implications for identifying and evaluating policy solutions. We turn to sector-specific conditions next.

Home- and center-based child care

Across age groups, most young children in the United States who experience out-of-home care prior to age 5 do so in a private business, either a home- or center-based child care site.[44] Many families with low incomes use publicly funded subsidies to help pay for this care (e.g., Child Care and Development Fund). Historically, public investments in child care aimed to provide children with a safe place to be while their parents work. In most states, laws governing child care sites and their licensing have maintained that focus on ensuring safety, as opposed to supporting children's learning or development.

This child care sector employs about 1.1 million home-based providers and 1.36 million individuals working in educational roles in center-based child care.[45] These providers typically work year-round, rather than over an academic year (e.g., 9 months).

Educators working in child care, both home- and center-based, face considerably lower entry requirements than other sectors. In 2020, 20 states had no educational requirement for lead teachers working in home-based care, and in 40 states, there was no requirement for assistant teachers, who do similar work and spend considerable time teaching, caring for, and interacting with, children. Five states required a CDA or its equivalent, but no state required home-based providers to hold a BA.[46]

The requirements are slightly higher for center-based child care teachers. Eight states have no requirement at all for lead teachers. Two states require lead teachers in centers to hold an AA, 10 require a CDA, and three more require more than a CDA but less than an AA. Similar to home-based care, requirements are lower for assistant teachers: 31 states have no requirement at all, and 16 require no more than a high-school diploma.[47]

Many home- and center-based providers attain more education than required, but the absence of workforce data systems makes it difficult to know the extent to which this is the case. Nationally representative data from 2012 suggest that about 15% of home-based providers hold a BA and roughly the same amount hold an AA. Among center-based

providers, about 25% of teachers working in a for-profit, independent center held a BA or more.[48]

Child care educators also earn lower wages, on average, than their peers working in Head Start or public preK and are far less likely to have access to benefits such as health care, vision and dental plans, paid sick leave, and retirement contributions.[49] Nationally representative data from 2019 suggest that the average hourly wage of a center-based child care teacher (excluding those working in a public school) was $13.09.[50] This estimate was similar to the average 2020 salaries for child care workers ($26,790) as reported by the Bureau of Labor Statistics.[51] Although home- and center-based teachers are combined in these estimates, it is likely that, on average, home-based providers earn less than their peers in centers. For example, 2017 BLS data show that the median hourly wage for home-based child care workers was $10.35, compared to $10.72 for center-based workers. These low wages mean that many home- and center-based child care workers live in poverty: In 2020, just 10 states had median child care worker wages translate into a living wage for a single adult with no children; in only three states and the District of Columbia did the median wage meet half of the living wage for a single adult with one child.[52]

Finally, opportunities for professional learning are also minimal among home- and center-based early educators. No states require teachers in home- or center-based sites to attend or receive compensation for ongoing professional learning.[53] At these sites, where profit margins are narrow, there is often no funding for sending educators to external PD sessions, paid planning time, paid release time, or coaching.[54] While the absence of large-scale data makes it difficult to paint a national picture of PD availability, local data demonstrate that child care teachers are less likely to attend PD than their school-based peers, and those that do attend PD often report low levels of PD (e.g., less than 5 hours a year).[55]

Head Start and Early Head Start programs

Head Start centers are federally funded and regulated and began in the 1960s as an anti-poverty program emphasizing child development and whole family wellness among families with low incomes.[56] Early Head Start serves pregnant mothers and young children through age 2, and Head Start serves children aged 3 to 5. Relative to the other center-based sectors, Head Start serves the fewest children under 5 (~1 million) and employs about 14% of the center-based ECE workforce.[57] We refer to Head Start and Early Head Start teachers in tandem here as "Head Start" for simplicity.

Head Start teachers are, on average, more highly educated than their peers working in home- or center-based child care. Over the past 20 years, increasing the education of the Head Start workforce has been a federal priority. The Head Start reauthorization of 2007 required that by 2013 half of the Head Start teaching workforce hold a BA, but it did not provide additional funds specifically for this purpose. Nonetheless, nationally representative data suggest that by 2015, 75% of lead teachers met this benchmark. Moreover, 60% of Head Start teachers hold both a BA and some other state-sponsored teaching credential (e.g., teaching license, CDA).

Despite their higher levels of education, Head Start teachers still earn considerably lower wages than teachers working with children older than 5—although they often have access to benefits such as health insurance.[58] For example, in 2021, the average salary for a public school teacher was $67,818; in contrast, the average salary for a Head Start teacher was $37,685, that for Early Head Start teachers was $30,352, and that for a Head Start assistant teacher was $24,209.[59] These wages have not increased in alignment with Head Start teachers' rising education levels: Between 2007 and 2015, a period in which the proportion of BA degrees among Head Start educators nearly tripled, real wages actually decreased by

2%.[60] In response, in 2024, the Administration for Children and Families (ACF) passed a new rule to increase Head Start teacher salaries to ultimately achieve parity with K-3 educators, as well as ensure a full suite of benefits including health insurance, paid sick leave, paid family leave, short-term behavioral health services, access to Public Service Loan Forgiveness, and child care subsidies.[61] While promising, this rule was not accompanied by plans for additional funding, raising concerns about implementation.

Finally, Head Start has specific goals around child development and whole-family wellness and invests in professional supports for its educators, with extensive regulations around the kind of PD and other professional learning opportunities that teachers and caregivers must receive.[62] In 2015, nearly 75% of Head Start teachers reported access to a mentor, and nearly all directors reported that the teachers working at their sites had funding to attend conferences (99%) or workshops and trainings on site (94%). Some teachers also had access to professional learning communities (38%) and paid planning time (27%).[63] The rules proposed by the ACF also include provisions for ensuring ongoing access to professional supports for Head Start and Early Head Start educators, including regular and ongoing staff supervision and PD opportunities.

State and local public pre-kindergarten

State and local preK operate in public school settings or in other community-based settings, depending on state or local regulation, with all but two states offering preK through "mixed delivery," or programs in which state preK is offered across both school- and community-based settings. They primarily serve 4-year-olds (with some 3-year-old programs), with an emphasis on promoting school readiness.[64] Public preK is the second-smallest sector (larger only than Head Start/Early Head Start), serving about 1.6 million children[65] and employing about 27% of the center-based workforce.[66]

State- and local- public preK vary substantially based on local regulation but on average have the highest education requirements among early childhood educators. In 2023, 31 of the 60 state-funded preK initiatives required teachers to hold a BA degree, and 47 required specialized training in early learning. Nineteen require assistant teachers to hold a CDA or its equivalent.[67] There is expected variability in these requirements across systems, but for states that have mixed delivery systems, there may also be within-system variability, in which teachers working in community-based settings face fewer requirements than their school-based peers. Nonetheless, overall, public preK teachers look more similar to their K-12 peers than those in other sectors in terms of training and education.

As with education requirements, there is significant state and local variation in compensation for public preK teachers, although on average, these teachers are the highest-paid early educators, particularly for teachers working in school-based settings. For example, 2017 BLS data report a median hourly wage for preK teachers in public schools of $26.88, more than twice that of center-based child-care workers in the same year. A challenge with BLS data, however, is that they collapse teachers working with 4-year-olds who work in public school-based settings and those working in other sectors. In many states, even educators who work as public preK teachers, but work in community-based sites, often earn less than their peers teaching in schools.[68]

This difference is on top of the discrepancy between teachers working in public preK and teachers working in public K-12 settings. An analysis of pay parity policy—where parity is defined as equivalent starting salaries, benefits, and pay scales for public preK teachers and their K-12 peers—found that 26 public preK programs had no parity policy in 2014-15, and just 6 programs across 4 states (New Jersey, New Mexico, North Carolina, and Tennessee) had full parity across wages and benefits for lead and assistant teachers working in schools only. Six other programs reach wage parity for lead teachers only (Iowa,

Kentucky, Maryland, Missouri, Nevada, and Oklahoma).[69] More programs (21) provide benefits parity, with 18 extending benefits parity to assistant teachers. Moreover, consistent with data presented above, nearly no states have parity policies for public preK teachers working in community-based settings.

Finally, state and local public preK teachers typically have access to professional learning opportunities, particularly educators working in public schools. In 2023, 42 of the 60 programs required structured classroom observations and used that data for program improvement; and 19 required at least 15 hours a year of PD, including individualized plans and coaching.[70] In 2020, 16 states had policies requiring public preK teachers to receive paid time for professional tasks such as planning and meetings.[71] Public preK teachers working in public schools are also likely to have access to a highly trained site leader, and the vast majority have access to supports for children's physical and emotional wellbeing, such as a school nurse or school counselor.[72] Nonetheless, just 13 state preK programs reached parity between public preK and K-12 educators for professional supports in 2014-15, and fewer reach parity for all public preK teachers, regardless of setting.[73]

Teacher and job characteristics, turnover, quality, and child outcomes

The low levels of education and training, compensation, and professional supports experienced by early educators have potential implications for children and family outcomes. Theoretically, each of these factors may directly impact teachers' ability to perform their job well, seek help appropriately, and continue to build their professional skill set. For instance, setting low educational requirements for early educators and providing early educators with limited on-the-job supports may negatively impact the quality of learning young children experience; low compensation may impact teachers' personal and professional wellbeing, changing their classroom behaviors; and access to fewer professional supports may prevent teachers from getting the help they need to both succeed and stay in their roles.

In addition to the direct impacts of low education, compensation, and support on teachers' classroom behavior, these factors may also meaningfully impact who chooses to enter and stay in ECE teaching. For instance, the low levels of compensation that are typical in child care may encourage current and potential early educators to seek other employment opportunities.

This next section reviews the empirical evidence on how policy-alterable teacher workforce factors relate to key outcomes, including teacher turnover, ECE quality, and children's developmental gains.

How workforce characteristics (e.g., education, compensation, professional supports) relate to teacher turnover

Turnover, defined as exiting one's teaching job at a given site, is, on average, high in ECE settings.[74] Estimates using various approaches to defining turnover from several sectors using national datasets (e.g., Head Start Program Information Report Data, Current Population Survey data, National Survey of Early Care and Education data) suggest that annual turnover may range between 15% and 40%,[75] a finding corroborated by recent statewide, administrative data from Louisiana and Virginia, which places observed annual turnover rates near 40% when aggregated across all center-based sectors.[76]

Turnover varies across sectors in ways that are consistent with the distribution of education, compensation, and professional supports discussed above.[77] For example, data from Virginia in 2024 show that, among center-based settings, turnover is highest in child care settings (36%), followed by Head Start (30%), and ultimately public preK (24%) (see Figure 2). Similarly, assistant teachers experience lower wages and fewer supports than lead teachers and turn over at a higher rate.[78]

Data also reveal substantial within-sector variation in turnover both across sites and over time, suggesting that exploring these drivers could identify important policy levers. For example, while on average, center-level turnover in child care sites in Louisiana across a three-year period from 2015–2018 ranged from 39-42%, roughly one-quarter of sites reported no turnover, and one-third reported more than 50% of staff left each year.[79] Similarly, National Head Start data estimate substantial variation in turnover across sites.[80] Next, we probe how workforce characteristics, including education, compensation, and professional supports, relate to turnover.

Do education and credentialing relate to turnover?

The theoretical relationship between teachers' education and/or credentialing and their turnover rates is ambiguous. On the one hand, educators with more education may have learned skills that make their job easier and more manageable than for their peers with less training, and they might therefore remain in their jobs at higher rates. ECE sites may also pay teachers more when they have more education, and these financial supports may make staying in the job more attractive. On the other hand, it could be that better-educated teachers have more alternative job opportunities and are more able to find alternative jobs with higher compensation or fewer demands. In that case, better-educated teachers may actually be more likely to leave their positions. It also may be that any observed relationship between education and turnover does not reflect the impact of education itself but selection into education. As just one example, teachers intending to stay in the field are more likely to persist through education and credentialing.

We lack data to adjudicate among these hypotheses. While turnover is lowest in school-based public preK, the sector that requires the highest levels of education and credentialing,[81] this is also the sector that pays most and offers more professional support, making it unclear whether the education requirement itself matters for teacher turnover.

Within sectors, where other professional factors related to education are better controlled, findings are also mixed. For example, correlational data from a recent report leveraging a large sample of child care educators in Virginia showed that rates of turnover were significantly lower among teachers holding a CDA than those not holding a CDA. However, there was no relationship between holding a BA and turnover.[82]

Does compensation relate to turnover?

Compensation is an oft-cited reason for teacher turnover,[83] and research shows that teachers often cite compensation as a key reason for job departure.[84] Yet, similar to education, there is limited causal evidence linking compensation to turnover. Turnover is lower in higher-compensation sectors.[85] Within sectors, correlational evidence shows that turnover is highest at programs that offer the lowest compensation.[86]

The lack of causal evidence is partially because, until recently, there were relatively few policy initiatives targeting early educator compensation.[87] Historically, initiatives such as TEACH and WAGE$, which provide bonuses to early educators, have done so in highly selective ways, often serving just a few hundred educators, and are typically small in amount—far below what would be needed for educators to reach pay parity with their K-12

peers.[88] Although existing research finds that teachers rate these supplements highly and report that they impact their decision to stay in the field,[89] very little work has connected bonuses to observed turnover.[90] One exception is a recent experiment conducted with a large sample of Virginia early educators, in which teachers were randomly assigned to receive a $1500 bonus. Eight months later, teachers who received the bonus were more likely to be working at their site than their counterparts who had not received a bonus. Notably, this impact was largely located in the child care sector: Child care teachers were half as likely to leave if they received a bonus, whereas the impact in school-based public preK was negligible,[91] likely because lead teachers in school-based programs earn a far higher base salary than child care teachers. Similarly, a study of Missouri's Workforce Incentive Program found that for teaching staff with lower wages and a high-school education, biannual bonuses substantially reduced turnover rates but that in the full sample, effects were null.[92]

Such findings provide stronger evidence that changes to compensation for early educators—particularly for those earning the lowest wages—may shift turnover rates, but more research is needed, particularly on sustainable and equitable compensation strategies. Much of the current literature focuses on wage boosts that likely result in very little change in educators' material conditions and are quite far from K-12 pay parity. A recent quasi-experimental study linking changes in the minimum wage to both increases in teacher compensation and decreases in teacher turnover represents an important first step in this work,[93] as is emerging research on Washington D.C.'s pay equity fund—but causal evidence on true parity remains nonexistent.

Do professional supports relate to turnover?

Similar to education, teachers' access to professional supports, such as high-quality leadership and coaching and other PD, may increase both educators' investment in their work and their job skill, influencing turnover decisions. Early childhood leaders play an important role in the day-to-day experiences of early educators, through their work as instructional leaders, day-to-day sounding boards, and as personnel managers,[94] making them a likely source of support that may influence teachers' job decisions. A growing literature in K-12 has linked leadership to teacher turnover,[95] but leadership remains understudied in ECE, particularly with respect to turnover. One recent study using a large sample of Virginia educators found that teachers working at sites where teachers viewed leaders more positively were more likely to stay at their jobs eight months later.[96] Leadership has also been related to job conditions and teacher wellbeing factors that have been linked to turnover intentions in correlational studies,[97] but more research in this area, as well as on other professional supports, including PD, is needed.

How workforce characteristics (e.g., education, compensation, professional supports) relate to classroom quality.

Teachers are the main drivers of quality in early childhood settings, making it important to understand the relationship between workforce characteristics and the quality of children's learning environments. The next section explores this topic.

Defining quality

Given the variety of priorities that families, schools, and policymakers have for young children's development as well as the importance of day-to-day experiences for children's development, it has historically been challenging to both define and measure ECE quality. As explained in the chapter on Quality in ECE, a budding definition of quality in early childhood education covers three dimensions—structural, process, and instructional quality. Structural quality refers to foundational elements such as class size, teacher–child

ratios, teacher training and education requirements, teacher compensation, and length of the instructional day/year.[98] Process quality refers to interactional quality, meaning the warmth of teacher–child relationships and peer relationships.[99] Instructional quality refers to what is taught and how. [100] Typically, these are the dimensions studied and discussed when evaluating the effects of ECE workforce policies.

Does education and credentialing relate to turnover?

As noted above, specific education and training in child development, early childhood pedagogies, and supporting children's social and emotional development is hypothesized to influence the quality of experiences early educators provide. Surprisingly, the literature linking education and credentialing to quality reveals mixed findings.

Some of the most successful ECE programs, for example Perry Preschool, the Abecedarian Project, Boston public preK, and Oklahoma public preK have required BAs and significant training in developmentally appropriate pedagogy for their educators.[101] Relatedly, quality is often higher in public preK settings than in child care, which is also consistent with the hypothesis that education is linked to higher quality.[102] Further, in the years following the 2007 Head Start reauthorization, in which the rates of BA-holding teachers in the Head Start workforce tripled, there was also an observed increase in classroom quality.[103] All of these patterns provide suggestive evidence that teachers' education may matter for ECE quality. However, it is not clear if these correlations reflect causal relationships. BA requirements tend to be just one of many differences between higher and lower quality programs, making it difficult to tell whether the required education levels specifically drive quality. Indeed, for the model programs mentioned above, another key difference is that they offer high salaries relative to other early childhood settings, often at parity with K-12 educators (e.g., Boston, Oklahoma).

Studies that more directly compare teachers with and without BA degrees working in the same sector find some small positive associations and many null associations with classroom quality, typically as measured using a measure of teacher-child interactions.[104] Null findings also tend to be more common in more recent studies. A 2019 meta-analysis summarizing this literature reported an association between years of education and quality outcomes as measured by the Early Childhood Environment Rating Scales but did not explore associations between specific degree or credential attainment and quality.[105] No research has yet explored the causal impact of BA attainment on classroom quality.

The lack of association may be due, in part, to the relative disconnect between the curriculum of many BA programs and the necessary skills for successful work in an early childhood classroom. This may be because a BA requirement does not necessarily mean that future early educators will pursue a BA related to early education, or it may be because of the wide variety of experiences offered by early childhood training programs.[106] Programs vary substantially, for example, in terms of coursework, student teaching experiences, and teaching portfolio requirements.[107] Future research examining specific features of effective pre-service training experiences can inform policymakers looking to understand how to best leverage pre-service training to support early educator practice.

Does compensation relate to classroom quality?

Research exploring the association between teacher compensation and ECE quality is limited, and to our knowledge, there is no evidence on the impacts of increased pay on ECE quality. However, researchers and policymakers have pointed to a large body of family-based research documenting that the stress engendered by poverty harms individuals' emotional and financial wellbeing, which in turn influences how caregivers interact with

young children.[108] The limited research that does exist suggests that the relationship between compensation and quality is likely indirect through wellbeing and other teacher factors.[109] Further research in this area is needed.

Do leadership and professional supports relate to classroom quality?

Despite the theoretical link between leadership quality and classroom quality, and a growing literature on this in the K-12 space, there is limited research on the impact of effective leadership on ECE quality. Existing research suggests that leadership may be a powerful lever for supporting both educators and ECE quality, but much of this work was conducted in small samples with qualitative methodologies.[110] One exception is a large study in Chicago that found that the quality of early childhood leadership, as rated by teachers, is linked to the quality of classroom-level teacher–child interactions.[111] Future research should replicate and extend these findings and specifically probe the mechanisms leading to this correlation.

In contrast, the research linking on-the-job professional supports, particularly PD opportunities for early educators, to classroom quality is the most robust of these literatures. While PD services are varied, much of what has been evaluated consists of workshops and trainings, sometimes combined with classroom observations and coaching.

This body of literature finds consistent evidence that PD that is focused, repeated, and reinforced over time, as well as aligned with high-quality measures of classroom processes, can increase the quality of teachers' interactions with young children.[112] Several recent meta-analyses focusing on experimental and quasi-experimental evidence found that PD participation is linked to improved classroom quality, with moderate effect sizes.[113] This is particularly true for teachers who receive significant amounts (e.g., more than 45 hours) of PD.[114]

One major challenge to extrapolating from this literature is that it has been conducted largely as part of small-scale randomized control trials and largely in Head Start or public preK settings. Evidence suggests that findings from small-scale, researcher-directed PD trials may not generalize to larger contexts,[115] and the differences between teacher characteristics and working conditions across settings may matter for PD efficacy.[116] For example, a recent study using data from Louisiana found that not only did teachers working in child care settings have access to less PD than their counterparts working in school-based public preK classrooms but also that PD was only linked to improvements in CLASS scores for school-based educators.[117] This is particularly concerning given the dearth of evidence on PD impacts for teachers working with infants and toddlers. For more information on professional learning in early education settings, see the Quality in ECE chapter.

How workforce characteristics (e.g., education, compensation, professional supports) relate to children's development

Causal research specifically linking workforce training, compensation, and support to children's development is also sparse. Much of the policy discussion around links between teachers' education and training, compensation, and support for child development is based on suggestive or extrapolated data. For example, professionalization efforts anchored in creating large-scale BA requirements for all early educators are based, in part, on positive findings on child outcomes from programs that have BA requirements (e.g., Perry, Abecedarian, Boston, Tulsa), rather than on focused research linking BA attainment to enhanced child development. Similarly, claims about the relationships between

compensation and child development outcomes are made based on the observed link between compensation and early educator wellbeing[118] and turnover, which in turn are linked to child outcomes.[119] Evidence for professional supports in the leadership area is weak, but the literature on PD has directly linked PD participation to small gains in children's outcomes during the preschool year in some, but not all, randomized trials and in a meta-analysis (which reported small gains for children in both phonological awareness and alphabet knowledge).[120] The variability in findings across studies highlights the need for continued research with particular attention to PD features.

Policies to support early educators

Potential policy levers for supporting early educators vary based on ECE sector. For home- and center-based child care, key levers are the licensing system, which sets minimum standards for site operation; the child care subsidy program, which can set standards for program participation and receipt of public dollars; and programs such as quality rating and improvement systems (QRIS), which are voluntary but in many states are required for sites that accept child care subsidies. For compensation specifically, amendments to the tax code or specific eligibility changes for Medicaid may also be fruitful avenues.

Oversight of Head Start programs lies with the federal government. Changes can be made to Head Start through the reauthorization of the Head Start Act by Congress or changes to Head Start Program Rules made by the ACF. The ACF also oversees Head Start grantees and can approve new grantees and revoke grants for not adhering to program standards.

Finally, state and local public preK is typically overseen by states and school districts and administered by school or center-based sites. State and district policies dictate program standards, including compensation minimums and/or salary scales for educators, education and licensing requirements, and mandatory PD experiences to ensure ongoing licensure.

Funds to support early education workforce policy initiatives may come from a variety of public and private sources, including the Child Care and Development Fund's quality funding stream, state general funds, state or local preK funds, funds derived from tobacco taxes (i.e., Colorado) or state lotteries (i.e., Georgia, Virginia, Washington, Nebraska, North Carolina), local government funds, foundations, non-profit entities, or corporations looking to invest in the future workforce.[121] Other initiatives with provisions akin to the American Rescue Plan could become an additional federal resource. Given the underfunding of the ECE system,[122] funding reforms that increase overall dollars available for ECE sites will likely also create important changes for the ECE workforce.

The following section discusses a variety of workforce reforms and what we know about their efficacy, with an emphasis on education/credentialing requirements and compensation policy, as well as broader funding reforms. For information on PD, see the Quality in ECE chapter

Education and licensing requirements

Causal evidence related to how changes in ECE educator requirements may affect turnover, quality, or child development outcomes is currently lacking, due to the general absence of longitudinal ECE data that would allow researchers to track changes in such outcomes after the implementation of a reform. However, there is some correlational evidence. For example, the 2007 Head Start reauthorization required that all teachers hold at least an AA and that by 2013, 50% of teachers hold a BA degree. Research exploring changes in Head Start following this reform found that education levels increased rapidly but wages stayed constant.[123] Some data suggest that teaching staff turnover actually

increased during this period,[124] although whether this was due to teachers without BAs leaving Head Start or those with BAs leaving at a higher rate is unclear. Additionally, data suggest an increase in the quality of teacher-child interactions over roughly this time period.[125]

These findings highlight the potential downsides of implementing education requirements without attendant changes in funding to facilitate increased compensation. In contrast, the District of Columbia increased education requirements, mandating that all lead teachers hold an AA degree in ECE, and all assistant teachers hold a CDA credential or its alternative—alongside a significant investment in educator compensation. Implemented in 2022, the Pay Equity Fund started as a one-time supplemental payment given to educators in fiscal year (FY) 2022, quarterly payments in FY 2023, and then through payments directly to child care sites in FY 2024 (sites must commit to paying educators in line with minimum salary scales set by the District, which differentiates salary tiers by role and education level).[126] The Pay Equity Fund substantially increased compensation for early educators: In FY 2024 assistant teachers and lead teachers could earn as much as $54,000 and $75,000, respectively.[127]

Preliminary data from the D.C. reforms suggests that compensation and education reforms operating in tandem may be beneficial. First, a quasi-experimental study using a synthetic control design reported that after the implementation of the Pay Equity Fund, the number of working early educators in the district increased by about 7%.[128] Center directors report that since the implementation of the Pay Equity Fund, it is easier to recruit and retain teachers. Directors also note that teachers are now more able to pursue additional education or professional learning.[129] Teachers also report satisfaction with the Pay Equity Fund. They report that the extra income allowed them to experience greater financial security and overall quality of life, reduced stress, increased job satisfaction, and increased likelihood that they would remain in their positions. Teachers also reported that they could better focus on the children they work with and were better able to provide supplies for their children and classrooms.[130] In summer 2024, D.C. policymakers approved a budget that significantly reduced funding for the Pay Equity Fund, despite substantial pushback from various constituents to not only continue to fund the policy but also its evaluation. While the implementation of this budget cut is still being debated, it is expected that the budget cuts will result in a cap on the number of participating early educators and set new education requirements for eligibility.

Compensation reforms

States can use various strategies to support compensation reforms in ECE, including establishing compensation standards as part of licensing requirements across sectors; requiring certain compensation standards for participation in public programs or participation in QRIS; increasing the state minimum wage (a change likely to impact the child care sector because these educators are most likely to be working at minimum wage); and the creation of financial relief policies such as stipend programs, refundable tax credits, or other bonus structures.[131]

The research base on the efficacy of programs such as these—and, in particular, efficacy in terms of child-centered outcomes such as ECE quality or child development—is very limited. For example, there is no research on the potential impact of adding compensation standards to licensing or subsidy-participation requirements or on the application of pay scales in ECE settings. Nonetheless, available research suggests potential benefits of a focus on compensation for improving workforce stability. For example, one quasi-experimental study found that states that administered a wage compensation program in tandem with their QRIS experienced lower turnover rates and increased labor supply

compared to states whose QRIS did not include a wage compensation component,[132] suggesting that pairing quality supports and compensation reform could be effective.

Similarly, one study using a quasi-experimental design to explore minimum wage effects on the ECE workforce found that increasing the minimum wage led to an increase in ECE teacher compensation, with no concurrent reduction in employment levels. Turnover also declined, and to the extent that data were available, teacher-child interactions improved.[133] This study is notable for linking increased compensation due to a policy change to improved stability and quality in ECE settings.

Finally, as noted above, there are a few causal studies linking bonuses to retention[134] and several promising correlational findings.[135] One important caveat to programs that have stringent entry requirements such as TEACH and WAGE$, is that it is unclear how the results might change if a broader program, encompassing a more diverse group of educators, were to be implemented, or if funding were expanded and provided bonuses were more generous. As noted above, Washington D.C.'s Pay Equity Fund presents the potential for research on the impacts of both more generous funding and mechanisms for providing funding to teachers (e.g., through one-time payment, quarterly payments, in regular paychecks), if funding is continued.

One key concern with increased teacher compensation is that it could reduce available slots. For example, ACF recently released guidance for Head Start grantees around increasing teacher compensation[136] without the provision of additional funds. Increasing compensation without increasing funding in the Head Start system may result in fewer open classrooms and fewer children enrolled. This may not be the case across sectors, however, as existing data from the child care sector, which has the ability to change prices, suggest that increases in the minimum wage have not significantly impacted child care supply.[137] Future research on this relationship, with attention paid specifically to sector, is needed.

Funding reforms

Finally, some states are introducing policies that change how subsidized child care is funded or that markedly increase state-level ECE investments. Currently, child care is expensive for families, yet sites have very thin profit margins, often less than 1%.[138] Relying on the market alone to increase funds within the ECE system is unlikely to work, and there have been broad calls for greater public investment.[139] Currently, federal policy requires states to set subsidy reimbursement rates based either on market rates or alternative methodologies, with most states using market rate strategies. However, given existing market challenges, this amount is likely too low to cover the true cost of high-quality care, including adequate wages for early educators.[140]

To address this issue, several states, including Massachusetts, New Mexico, Virginia, and Washington D.C., have implemented a cost of quality model to set subsidy reimbursement rates. Rather than determining reimbursement based on market rates, the cost of quality model estimates how much it would cost to actually provide high-quality early learning for children of different ages—a cost that includes providing a living wage for early educators.[141] Such reforms are designed to highlight the serious underfunding in the current child care market.

However, reforms anchored in estimating the true cost of providing high-quality child care will work only if coupled with significant increases in funding for the subsidy program from state or federal funds. This is the approach New Mexico took. In addition to introducing the cost of quality model, in 2022, New Mexico expanded eligibility for child care subsidies up to 400% of the federal poverty line, essentially making all New Mexico

families eligible, and waived co-payment costs for all families, in effect making care free for all New Mexico families. This sweeping set of reforms were coupled with considerable increases in state investments through several sources: the state general fund, an early childhood trust fund established in 2020, and the state's land grant permanent fund, which is an investment account unique to New Mexico. This suite of investments has the potential to transform early learning in New Mexico, although research on the reform is nascent. Notably, from an evaluation perspective, it will be difficult to understand which aspects of the reform are causally linked to beneficial outcomes, since many changes were implemented simultaneously. Nonetheless, ongoing research is essential for exploring potential mechanisms and next steps for other states, particularly because other states that have moved towards cost of quality reforms used pandemic-era funding to do so, and it is unclear what mechanisms are in place that could make such efforts sustainable in the long term.

Finally, in most states, few children receive subsidies, raising questions about the broader impact of these efforts in increasing ECE funding. Increasing the reimbursement rate for subsidies alone will not change the fact that a very low share of eligible families currently accesses subsidies, nor will it impact care in the large number of sites that operate without participating in the subsidy system. Additionally, it will be important to ensure that movement towards higher reimbursement rates does not result in a decrease the number of children who receive subsidies.

Increasing funding for Head Start and state and local public preK and expanding the child care subsidy program or the Child Tax Credit are all strategies that could simultaneously enhance both access and quality in ECE.

Next steps for workforce research

Unlike K-12, in which administrative datasets track a host of teacher characteristics, training and job information, retention, and student outcome data, there is no single site for data collection across the many places young children are served. There is also largely no systematic data collection effort within sectors in most states. This makes many basic, descriptive questions about the workforce difficult and larger questions about policy efficacy impossible to answer.[142] Addressing this data limitation is essential for conducting the research called for above.

It is also important that research pays particular attention to the potential for unintended consequences of policy solutions. The early education workforce is one of the most diverse in the country, and unlike K-12, is well matched in terms of race and ethnicity to the young children it serves.[143] This is a considerable strength of the workforce, which is able to provide care in a variety of languages and meet the unique needs of families,[144] as well as providing additional avenues for family engagement[145] and effective supports for child development.[146] Policy solutions that do not account for the importance of this diversity[147] may lead to unintended consequences both in terms of reducing workforce diversity and further exacerbating disparities in teacher preparation, compensation, and support.[148]

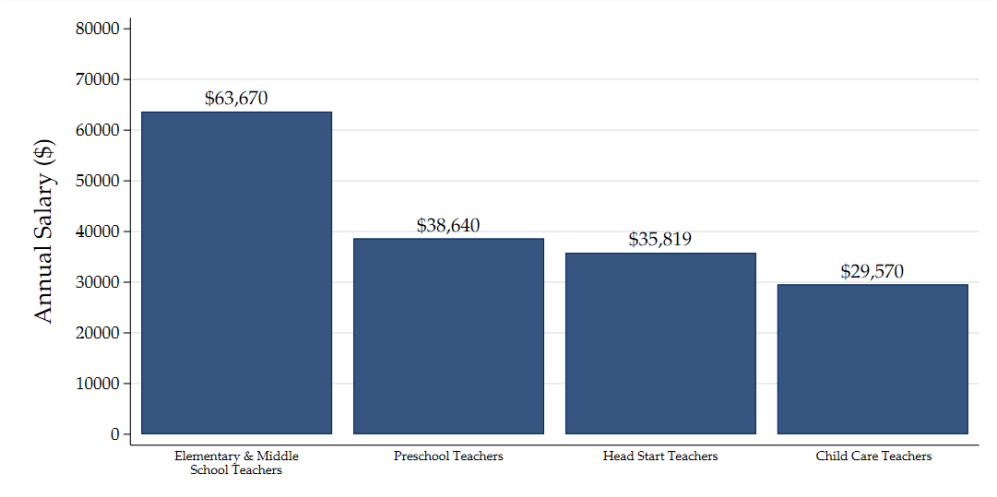
Finally, the aftermath of the COVID-19 pandemic continues to raise challenges for early educators and the sustainability of existing ECE systems. Challenges to emotional wellbeing, although high prior to the pandemic, rose significantly in 2020 and have yet to return to their pre-pandemic levels.[149] Child care directors regularly report challenges to recruitment and retention, and turnover rates remain high. The pandemic exposed fissures in the early education system, as child care, Head Start, and schools faced

differential operating criteria, and for many educators made new, easier, and higher-paying jobs available. Large-scale investments such as Build Back Better failed to materialize, and many states are now struggling to navigate the erosion of pandemic relief dollars alongside a system that remains broken. Bold investments that take seriously the importance of early educators and their role in maintaining a healthy ECE ecosystem are called for, as is research that can track their efficacy.

Conclusion

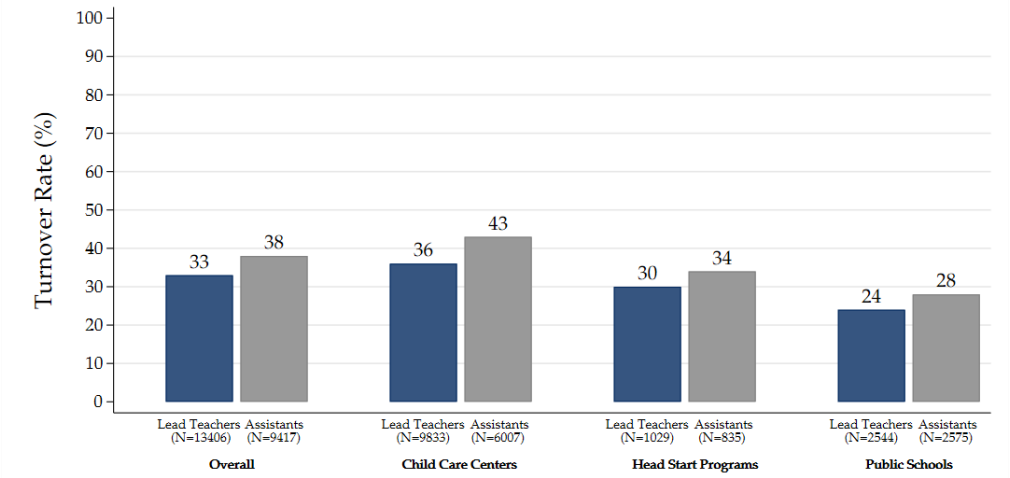
ECE continues to be a popular policy lever for both supporting the long-term development of young children and providing essential support for working families. However, without a stable, well-trained, and well-supported workforce, it is unlikely that investments in ECE will ever lead to their anticipated dividends. This chapter provides an overview of workforce conditions and their implications for workforce stability, ECE quality, and ultimately, the development of young children. Although significant policy investment in the ECE workforce is insufficient, this chapter provides several key areas for future investment and research.

Figure 1: Annual 2022 salaries for K-12 and early childhood teachers



Note: Data were drawn from the Bureau of Labor Statistics and Head Start Program Information Reports. The preschool teacher estimate includes both teachers working in school-based settings (average wage $53,200) and those in child care settings ($34,480).

Figure 2: Early childhood teacher turnover in Virginia across roles and sectors



Note: Based on Fall 2023 and Fall 2024 from Virginia's LinkB5 registration data, which include all teachers working in publicly funded early childhood programs, including subsidized child care settings, Head Start programs, and public-school pre-kindergarten teachers in the state. The number of teachers in our sample who were registered in each sector and role in Fall 2023 is shown in parentheses. The turnover rate is the percentage of those teachers who were not registered as working at the same site in Fall 2024.

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